

REMARKS

With the entry of the amendments above, claims 1, 9 and 11-17 remain pending in this application. Applicants thank the Examiner for his careful review of this application and the completeness of the pending Action. As can be seen from the amendments above and the following Remarks, applicants have implemented many of the Examiner's thoughtful suggestions.

The amendments to claim 1 overcome the objection to the specification in paragraph 7 of the Action.

Applicants have amended claim 9 as suggested to overcome the objection to it in paragraph 8 of the Action.

Applicants have also amended claims 1 and 14-16 in light of the rejection under 35 USC 112, second paragraph, which is respectfully traversed. The amendments to claims 14-16 clarify, as suggested by the Examiner, that the bonding alloy "further comprises" the claimed constituents. As to claim 1, applicants respectfully submit that persons skilled in this art would readily understand the metes and bounds of the invention from the language of claim 1 as amended. As amended claim 1 points out, the precision machine part of the invention is formed by bonding pieces together with the claimed transient liquid phase diffusion bonding alloy so as to form a plurality of conveyance passages within the precision machine part. The language which the Examiner found unclear is not necessary to capture the patentable features of the invention, so applicants have deleted it from claim 1.¹ Although applicants have made these amendments to claim 1 for reasons related to patentability, the amendments broaden claim 1

¹ As the Examiner can see from pages 4-6 of the specification, this invention is not limited to structures in which the bonding takes place along longitudinal faces, so that the deletion of the unclear language from claim 1 does not result in the introduction of new matter.

without sacrificing its patentability over the prior art. Withdrawal of the rejection under 35 USC 112, second paragraph, is respectfully requested.

Claims 1, 9 and 11-17 stand rejected under 35 USC 112, first paragraph, for failing to comply with the written description requirement. Applicants respectfully traverse this rejection, in part because it is not meritorious in light of the claims as amended and in part because applicants do not understand the basis for the Examiner's logic of rejection. The Examiner has rejected the claims at least in part because he thinks it is unclear where the limitations are taught, not that persons skilled in this art would not recognize that applicants were in possession of the inventions described in these claims. Thus, the Examiner has mingled the logic supporting a rejection for lack of enablement with the logic supporting a rejection for lack of written description, whereas those rejections lie on separate footings and are not coextensive. Thus, the basis on which the Examiner finds a lack of written description is not clear from the Action as stated. These claims are in fact described in the application as filed.

The amendments to claim 1 overcome the rejection of that claim, for the reasons explained in the footnote above.

With respect to claims 9 and 14, the Examiner states that "it is unclear where the claimed alloy is disclosed without the requirement of an oxidizing atmosphere." Applicants respectfully note that claims 9 and 14 are product claims and that "the requirement of an oxidizing atmosphere" is a process limitation of the kind that Examiners customarily characterize as not limiting product claims. It is not necessary for a product claim to recite the conditions under which the product was made to define the product covered, unless the applicant regards the process of making the product as imparting characteristics to the product that the applicants regards as part of the invention. In fact, the specification expressly states at page 13, lines 18-19, that the bonding atmosphere is not particularly limited, so it is apparent that an oxidizing

atmosphere is not a necessary part of the invention that must be set forth in product claims. The Examiner can find the written description for claim 9 at page 7, lines 7-8, for example, and for claim 14 at page 9, lines 20-26, for example.

With respect to claims 11 and 13, the Examiner states that “it is unclear where the claimed alloys used without the process limitations of original claim 4 and characteristics of original claim 7 are disclosed.” Original claim 4 was a method claim; claim 11 is a product claim directed to a product which could be made by the method of claim 4. The written description of this application shows clearly that applicants were in possession of a product meeting the limitations of claim 11, because they disclose how to make it by the method of original claim 4 as well as in the portion of the disclosure of this application tracking original claim 4. Original claim 7 was likewise a method claim, and the same rationale applies to it and claim 13. Applicants are at a loss to understand the factual and legal basis for this portion of the rejection.

As to claims 15 and 16, the Examiner states that “it is unclear where these alloys in combination with the limitations of claims 11 and 12 are taught.” Applicants think that the amendments to these claims overcome this rejection, to the extent it might have had merit. Applicants also point out that pages 8 and 23 of the specification describe the inventions of claims 15 and 16.

Finally, as to claim 17 the Examiner states that “it is unclear where this subject matter is taught.” Applicants respectfully refer the Examiner to page 6, lines 18-21, and page 15, lines 14-19, of the specification, for example, as describing the invention of claim 17.

For these reasons, the Examiner should withdraw the rejection of claims 1, 9 and 11-17 under 35 USC 112, first paragraph.

The Examiner rejected claims 1, 12, 13 and 16 as anticipated by Shimizu '154.

Applicants respectfully traverse this rejection on the ground that Shimizu does not disclose the claimed precision machine part having a plurality of conveyance passages therethrough. Shimizu discloses parts having a single conveyance passage and does not suggest multiple conveyance passages through the parts. For this reason alone, Shimizu does not anticipate the rejected claims.

Applicants also note for the record that the Examiner's treatment of claim 12, which requires the bonding alloy to be an amorphous nickel alloy, is not based on evidence of record. Not only does the Examiner admit that Shimizu does not positively disclose an amorphous bonding alloy (by arguing that "[t]he alloy is not taught by Shimizu as not being amorphous"), which ought to be the end of the discussion, he admits that the diffusion treatment disclosed in Shimizu would not retain the amorphous quality of the starting material. The Examiner does not appear to be arguing that Shimizu inherently discloses an amorphous bonding alloy, which is understandable since BNi-3 is well known in this art to be crystalline.

In order to expedite prosecution, applicants submit herewith the declaration of co-inventor Yasushi Hasegawa to demonstrate why Shimizu's technology would not have been viewed by persons of ordinary skill in the art as being suitable for producing parts made by bonding multiple pieces together so as to form a plurality of conveyance passages through the part. Mr. Hasegawa's declaration convincingly rebuts any case of *prima facie* obviousness that the Examiner might wish to argue. Mr. Hasegawa reports experiments in which he found that the joining method disclosed in Shimizu will not produce satisfactory parts having multiple conveyance passages formed therein. Applicants respectfully submit that Mr. Hasegawa's experiments prove that persons of ordinary skill in the art would not have been motivated by

Shimizu to produce the claimed precision machine parts because they would have found that Shimizu's method will not work to produce the claimed parts.

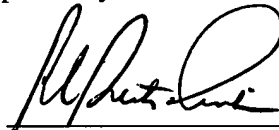
For the foregoing reasons, early action allowing claims 1, 9 and 11-17 is solicited.

In the event that the transmittal letter is separated from this document and the Patent and Trademark Office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to

Deposit Account No. 03-1952, Ref. 350292001200.

Dated: June 22, 2004

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